Accelerating Career Readiness

A REPORT ON CAREER INNOVATIONS AT APLU INSTITUTIONS

ASSOCIATION OF PUBLIC & LAND-GRANT UNIVERSITIES

Acknowledgments

This brief provides a landscape report on the current state of career innovations at member institutions of the Association of Public and Land-grant Universities (APLU). Across APLU, institutions are actively implementing a wide range of strategies to promote career readiness preparing students to successfully transition from education to the workforce. Our goal with this report is to shine a light on these efforts, amplify their impact, and inspire further innovation in the field.

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Supplemental Materials

Including additional findings, and subsequent reports may be found on the APLU Resource Library.

Executive Summary

Public universities are facing increasing pressure at the state and federal level, as well as from students and their families, to improve postgraduate outcomes like wages and job placement. While employment rates and wages for college graduates are extraordinarily higher than for those without a college degree (NCES, 2023), underemployment remains a significant challenge for graduates unable to find positions that align with their skills and education levels. However, innovative career services strategies are helping institutions address this issue, offering measurable progress in bridging the gap between academic preparation and workforce readiness. These innovations include personalized career guidance, the use of technology, career-aligned student success efforts, hands-on experiential learning, and strengthened partnerships with employers.

Key findings show personalized career services are using data analytics to offer tailored advice and interventions, particularly benefiting students at risk of underemployment. Technological integration—such as AI-driven career platforms—provides students with accessible, on-demand support, significantly enhancing career readiness. Career-aligned student success systems allow institutions to track student outcomes, adjust programming, and forecast job market trends, helping students make more informed career decisions. Additionally, experiential learning opportunities, such as internships and on-campus employment, offer students real-world experience before graduation, and employer partnerships have become essential in shaping relevant career pathways and ensuring students are equipped with in-demand skills.

Despite these successes, challenges remain. Many institutions face funding constraints, making it difficult to scale these innovations. Institutional inertia slows the adoption of new

practices, and gaps in employer engagement limit students' access to internships and job opportunities. Moreover, ensuring that these innovations reach underserved populations—such as first-generation, low-income, and adult learners—remains a priority in creating equitable outcomes for all students.

To address these challenges and to meet accountability expectations of postgraduate outcomes, university leaders should consider reorienting career services work around new technologies, deepen partnerships with employers to align academic programs with evolving workforce needs, and adopt student-centered, data-driven approaches to center individual student needs in career services.

Looking ahead, the further integration of AI, employer-driven curricula, and digital credentialing has the potential to reshape career services entirely. These innovations could provide students with more personalized, flexible, and adaptable career preparation, making them better equipped to navigate the complexities of the modern job market. Sustaining momentum will require continued collaboration between institutions, employers, and policymakers to ensure that career services remain relevant and impactful in the years to come.

The Challenge

Underemployment is a persistent issue facing college graduates in the United States. While national attention often focuses on student debt and the rising cost of higher education, underemployment—defined as graduates working in jobs that do not require a college degree—remains an equally critical challenge. Recent studies estimate that a significant share of graduates, across all four-year sectors, are underemployed, leading to diminished career trajectories, reduced lifetime earnings, and a delayed return on the investment of higher education (Hanson, Salerno, Sigelman, de Zeeuw, & Moret, 2024). As institutions dedicated to providing life-changing economic opportunity and upward socioeconomic mobility, it's essential that public universities continue efforts to improve post-graduate employment outcomes for their students. Additionally, accountability measures for public institutions are increasingly looking toward postgraduate outcomes. For example, the federal College Scorecard began providing a snapshot of median wages for graduates in 2015 and started disaggregating wages at the program level in 2020. Even more recently, the new Carnegie Classification for Social and Economic Mobility will recognize schools with high returns. While public universities remain the single greatest engine for economic mobility, job placement alone is no longer sufficient for graduates. They are increasingly looking to secure high-skilled, high-paying jobs.

The problem of underemployment has been exacerbated by rapid changes in the labor market, driven by technological advancements, shifting industry needs, and a growing expectation for graduates to enter the workforce with practical, job-ready skills (CEW, 2021). While higher education institutions have long emphasized academic rigor and intellectual development, they have often been slower to adopt the innovative, real-world career preparation strategies that today's job market increasingly demands. This lag can result in some graduates who are theoretically knowledgeable but lacking sufficient

applied skills that employers are increasingly seeking. Consequently, these graduates can find themselves underqualified for high-skill jobs, while overqualified for the roles they do land (NCES, 2021).

Moreover, the underemployment issue disproportionately affects graduates from underserved populations—first-generation college students, those from low-income backgrounds, and students from rural areas (Hanson et al., 2024). These students are often less equipped to navigate career services and may lack access to professional networks that facilitate post-graduation employment. This raises important equity concerns for public institutions committed to expanding access and success for all students (APLU, 2022).

In response to these challenges, APLU member institutions are reimagining their approach to career services, shifting from traditional models of job placement toward more innovative, holistic strategies aimed at preparing students for dynamic, evolving education-to-career pathways. By leveraging technological integration, career-aligned student success systems, experiential learning, and stronger employer collaborations, APLU institutions are pioneering solutions designed not only to reduce underemployment but to ensure long-term career success for their graduates. As public universities face increasing scrutiny over their ability to deliver value to students, innovating in career services is critical to maintaining public trust and fulfilling their educational mission.

Innovation in Career Pathways

In today's rapidly evolving labor market, traditional approaches to career services are no longer sufficient to prepare students for successful and sustainable career pathways. Innovation is essential to bridge the gap between academic learning and workforce readiness, ensuring graduates not only secure employment but thrive in roles that fully utilize their skills and knowledge. Public institutions, particularly APLU member universities, are at the forefront of this shift, leveraging cutting-edge strategies to address chronic underemployment and better align higher education outcomes with employer needs.

Early in 2024, researchers at APLU engaged in a national landscape analysis to determine current and innovative practices in career services and preparation at large, public and land-grant universities. We employed multiple means of collecting data on practices including 26 individual interviews, four focus groups, and five site visits. We identified five critical areas essential for enhancing career pathways: **personalization, career-aligned student success systems, data-driven approaches, experiential learning, and employer collaborations**. Each of these elements plays a unique role in reshaping how students engage with career services and how institutions support them in navigating complex job markets.

Personalization

Personalization in career services is a critical component for ensuring students receive guidance tailored to their unique aspirations, academic backgrounds, and individual needs. APLU member institutions are pioneering innovative programs that allow for a more customized approach to career development, enhancing student engagement and improving employment outcomes. Three key areas of personalization—**individualized career coaching, adaptive learning platforms, and career success apps**—are helping institutions provide students with more precise, relevant, and actionable career support.

INDIVIDUALIZED CAREER COACHING: Many institutions implemented programs that offer students customized career plans developed in close collaboration with career coaches. These coaches use data such as academic performance, co-curricular involvement, and internship experiences to suggest tailored career pathways for students. For example, a student with strong analytical skills but limited work experience might be guided toward an internship that builds on their strengths while providing hands-on exposure in their desired field. This personalized approach ensures that students receive guidance that aligns with their goals, skill sets, and industry trends, making the career planning process more relevant and effective.

ADAPTIVE LEARNING PLATFORMS: AI-driven adaptive learning platforms adjust career preparation activities based on individual student performance and feedback. These platforms can assess a student's progress in areas like resume writing, interview practice, or job searching, and then recommend specific resources or exercises that address their gaps. For example, if a student is struggling with crafting a professional resume, the system might direct them to resume-building workshops or offer automated feedback to refine their documents. This real-time adaptation helps ensure that each student receives a personalized pathway to career readiness, allowing them to focus on areas where they need the most support.

CAREER SUCCESS APPS: Mobile apps are another valuable tool in delivering personalized career services directly to students' fingertips. Career success apps provide students with real-time job listings, application deadlines, and personalized notifications based on their career interests, academic major, and geographic preferences. By integrating academic and career data, these apps ensure students receive updates that are directly relevant to their professional aspirations. For instance, a student majoring in computer science would receive job alerts for tech-related internships or full-time positions, along with reminders about upcoming employer networking events. This level of personalization helps keep students actively engaged in their career development and increases the likelihood of successful job placement.

Innovations in personalization are enabling institutions to move beyond the generic *one-size-fits-all* approach to career services. By providing tailored support that adjusts to the unique needs and progress of each student, institutions are fostering a more individualized and proactive career development process. Personalization, in turn, leads to higher levels of student satisfaction and better post-graduation employment outcomes, as students are better equipped to navigate their specific career pathways with confidence and precision.

Technological Integration

The following two innovations are tightly connected in that they both rely upon new technologies to structure career services. The conceptual distinction lies in the

intended audience of the innovation. Technological integration refers to student-facing technologies meant to enhance their direct experiences with career services and the job market.

For students, technology is transforming the way they engage with career services, making it possible for institutions to provide sustained, scalable support extending far beyond traditional in-person advising sessions. By leveraging technological tools, APLU member institutions are not only enhancing the accessibility of career services but also personalizing the career development process to better meet the needs of diverse student populations. Several key innovations are driving this transformation:

VIRTUAL CAREER PLATFORMS: Many institutions now offer comprehensive virtual career platforms that provide 24/7 access to career resources. These platforms use AI-driven tools to guide students through essential career preparation tasks, such as resume building, job searching, and interview preparation. For example, platforms like Handshake or Big Interview utilize algorithms to give real-time feedback on resumes, suggest improvements, and even simulate interview experiences, offering students a highly interactive, self-paced learning environment. By reducing the barriers to accessing career support—such as limited appointment times or geographic distance—these virtual platforms ensure that students from all backgrounds can receive consistent and timely assistance in their job search.

CAREER ANALYTICS DASHBOARDS: Data-driven dashboards are another powerful innovation that enhances both student and institutional decision-making. These dashboards compile real-time data on students' career progress, internship placements, job applications, and alumni employment outcomes. By analyzing these data, institutions provide tailored recommendations to students based on their individual profiles, academic performance, and labor market trends. Predictive analytics also enable career services teams to anticipate which students might be at risk of underemployment, offering targeted interventions to improve their outcomes. For instance, a student struggling to secure an internship in their field of study might receive suggestions for additional skills training or alternative career pathways that align with their strengths.

ONLINE SKILL-BUILDING MODULES: Many institutions have incorporated online skill-building platforms to supplement traditional academic learning with practical, in-demand skills training. These modules, often developed in

partnership with e-learning providers like Coursera, LinkedIn Learning, or edX, allow students to earn micro-credentials in areas such as data analysis, coding, project management, or digital marketing. These micro-credentials can be showcased on digital resumes or LinkedIn profiles, signaling to employers that graduates possess the specific technical skills needed for modern job roles. Online modules also enable students to bridge gaps in their skillsets at their own pace, providing a flexible way to stay competitive in an evolving job market.

Together, these technological innovations represent a major shift in how career services are delivered, making career preparation more accessible, personalized, and data-driven. By integrating new technologies, institutions can empower students to take charge of their career journeys, while also ensuring their services are aligned with the latest industry demands and trends. As the job market continues to evolve, the ability to adapt career services through technological tools will be essential to addressing underemployment and improving long-term employment outcomes for graduates.

Career-Aligned Student Success Systems

Career-aligned systems are essential for institutions aiming to improve career outcomes for their students. By leveraging analytics and data collection as part of the decision-making process, public institutions can provide more targeted and effective career services, helping students make informed decisions and improving institutional accountability. APLU member institutions have increasingly adopted data-driven strategies to prepare students not only for the workforce but also to be able to secure meaningful employment after graduation. While similar to technological integration, these approaches are institution-facing. Career-Aligned Student Success Systems meanwhile, speak to internal processes and institutional decision-making related to career services.

Three key areas where these approaches are transforming career services include graduate outcome tracking, student success metrics, and predictive job market analysis.

GRADUATE OUTCOME TRACKING: One of the most powerful uses of data is in tracking the career outcomes of graduates. By collecting data on where graduates are employed, in what industries, and at what salary levels, institutions can refine their career services to better align with labor market demands. These tracking systems often rely on alumni surveys, LinkedIn

data, and employer feedback to assess how well programs prepare students for their chosen careers. The insights gained from these data allow institutions to adapt curricula and career development programming to better meet the needs of both students and employers. Moreover, having robust outcome data provides transparency and helps prospective students understand the value of their degree.

STUDENT SUCCESS METRICS: Data analytics platforms enable institutions to track a wide range of student success indicators, such as GPA, internship participation, career service engagement, and course completion rates. By analyzing these metrics, career services teams can identify students who may be at risk of underemployment and provide early interventions. For example, students who have not completed an internship by their junior year might receive targeted resources and guidance to help them secure relevant work experience before graduation. This proactive approach makes it far more difficult for students to fall through the cracks, especially those from underserved populations who may require additional support navigating their career journey.

PREDICTIVE JOB MARKET ANALYSIS: Institutions are increasingly using data to predict job market trends and advise students on high-demand careers. By analyzing regional and national labor market data, career services offices can identify which industries are growing and where skill gaps exist. This information allows advisors to steer students toward majors and career paths that are most likely to lead to employment. Additionally, predictive analytics can help institutions develop new programs and certifications that align with emerging fields, ensuring that graduates are equipped with the skills needed for future job markets. For instance, if data analysis reveals a surge in demand for cybersecurity professionals, institutions might respond by developing targeted cybersecurity programs or incorporating relevant skills training into existing IT curricula.

By using data to track outcomes, monitor student progress, and analyze labor market trends, public institutions can significantly enhance the effectiveness of their career services. These data-driven approaches allow for more personalized and responsive support, ultimately leading to improved employment outcomes and greater alignment between educational programs and workforce needs. As data analytics continue to evolve, institutions will be better equipped to adapt to changing labor market conditions and provide students with the guidance they need to succeed in their careers.

Experiential Learning

Experiential learning has become a cornerstone of career readiness, providing students with the hands-on experience needed to bridge the gap between academic theory and practical application. As employers increasingly seek graduates who not only possess academic knowledge but also demonstrate real-world skills, APLU member institutions are expanding experiential learning opportunities to better prepare students for the workforce. Three key components—work-integrated learning
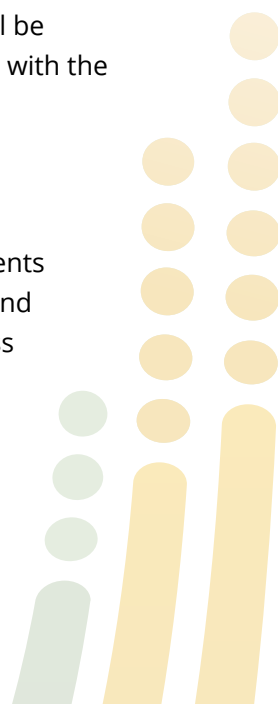
(WIL), on-campus employment, and virtual internships—are transforming how students gain practical experience during their studies, making them more competitive in the job market upon graduation.

WORK-INTEGRATED LEARNING (WIL): Work-integrated learning programs combine academic coursework with structured work experiences in partnership with local or national employers. These programs, including internships, co-ops, and project-based learning, allow students to apply classroom knowledge to real-world scenarios while earning academic credit. APLU institutions are increasingly partnering with regional businesses and industries to create WIL opportunities that align with local workforce needs. For example, engineering students might participate in a co-op program that enables them to work with an engineering firm over the course of multiple semesters, gaining valuable hands-on experience while refining their technical skills. These programs not only enhance students' employability directly in these high-skilled industries but also allow employers to build relationships with future talent early in their academic journey.

ON-CAMPUS EMPLOYMENT: On-campus jobs offer another valuable avenue for experiential learning, particularly when these positions are designed to go beyond basic employment tasks and include skill-building opportunities. Many institutions are redesigning their student employment programs to embed career development into campus jobs, transforming roles like research assistants, resident advisors, and lab technicians into experiences that foster professional growth. By integrating soft

skills training, such as leadership, communication, and problem-solving, into these roles, institutions ensure students develop transferable skills that can be applied to their future careers. Additionally, campus-based jobs are more accessible to students who may not have the financial means to engage in unpaid internships, thus increasing equity in experiential learning.

VIRTUAL INTERNSHIPS: As remote work becomes more prevalent, virtual internships have gained traction as a flexible and accessible way for students to gain professional experience. Virtual internships eliminate geographic barriers, allowing students from rural areas or those with transportation challenges to engage with employers they might not otherwise have access to. Through these internships, students can work on real-world projects, collaborate with professionals from across the country, and gain exposure to digital communication and collaboration tools—critical skills in today's workforce. APLU institutions are embracing these virtual opportunities, often in partnership with global companies, to provide students with internship experiences that are adaptable to their schedules and personal circumstances.

Experiential learning not only provides students with the opportunity to apply their knowledge directly in professional contexts, but it also helps them build networks, develop a deeper understanding of their career interests, and refine their skill sets to meet employer expectations. By embedding experiential learning into their academic programs, APLU institutions are equipping students with the experience and confidence they need to transition smoothly from higher education into meaningful careers.

Employer Collaborations

Strong collaborations between higher education institutions and employers are critical to bridging the gap between academic preparation and workforce readiness. APLU member institutions have a rich history of partnerships with employers, but the nature of the collaborations is shifting to ensure students are prepared for the realities of the modern job market. Employer collaborations are essential for several reasons: they provide students with direct access to industry experience, help align academic programs with current workforce needs, and foster mutually beneficial relationships between universities and employers. Three major areas where employer collaborations have proven highly effective are employer advisory boards, job shadowing and mentorship programs, and industry partnerships for upskilling.

EMPLOYER ADVISORY BOARDS: Many public institutions have formed advisory boards consisting of representatives from key industries, who provide direct input on curricula, career services, and program development. These boards ensure that academic programs are continuously aligned with evolving industry standards, keeping students' education relevant to employers' needs. Advisory boards also offer valuable networking opportunities for students and help institutions stay agile in responding to labor market changes. At some institutions, boards play

a hands-on role in developing new programs, such as micro-credentials or certificates, that equip students with skills in emerging fields like artificial intelligence, cybersecurity, or renewable energy.

JOB SHADOWING AND MENTORSHIP PROGRAMS:

Employer partnerships also manifest through job shadowing and mentorship initiatives. These programs give students firsthand exposure to their potential careers and industries by pairing them with professionals in the field. Job shadowing provides students with an understanding of the day-to-day responsibilities of professionals, while mentorship programs offer deeper, long-term guidance and professional development. Mentorship initiatives help students build professional networks, improve their job search strategies, and gain insights into the unspoken rules of navigating various industries.

INDUSTRY PARTNERSHIPS FOR UPSKILLING: As industries increasingly require specific technical skills, institutions are forming partnerships with employers to design upskilling programs that meet these demands. For instance, universities collaborate with tech companies to offer coding boot camps or data analytics certification programs, often in partnership with major employers. These programs allow students to acquire the precise skills needed in rapidly changing job markets, making them more competitive in their chosen fields. Additionally, partnerships often include internship and employment pipelines that allow companies to recruit directly from the institution's pool of qualified graduates.

These employer collaborations not only help students transition from academia to the workforce but also enable institutions to remain relevant in an ever-changing labor market. By embedding real-world experience and industry connections into their academic programs, universities ensure their graduates are not only job-ready but also equipped to adapt to future employment trends.

Discussion

Innovations in career services at APLU institutions are addressing underemployment. By integrating personalized career guidance, technological tools, career-aligned student success, experiential learning, and employer partnerships, institutions are developing more effective approaches to preparing students for the workforce. This shift is particularly important as the traditional model of career services—focused primarily on job placement—has proven insufficient in an evolving labor market where the skills required by employers are constantly changing. Institutions like the University of Central Florida (UCF) are leading the way by offering virtual career platforms, which provide students with 24/7 access to essential resources such as resume-building tools and AI-driven interview simulations. These innovations make career services more accessible, allowing students to engage in career preparation on their own schedule, thus addressing one of the root causes of underemployment: a lack of timely, practical career support.

Success programs, such as Georgia State University's use of predictive analytics to offer personalized career coaching, exemplify how scalability and cross-institution collaboration can enhance career services. By using data to identify at-risk students and proactively offer support, GSU ensures students receive tailored advice early in their academic careers. This data-driven model is scalable across institutions because it relies on technology and analytics that can be adapted to various student populations and institutional structures. Similarly, the "Tomorrow's Innovators" program at Morgan State University, in collaboration with Bristol Myers Squibb, highlights the importance of cross-institutional and employer partnerships. This program creates a talent pipeline for underrepresented students in the biopharma industry, preparing graduates for high-demand roles in a field where diversity has historically been lacking. Such collaborations demonstrate that when institutions and employers work together, they can create scalable solutions that benefit both students and industry.

However, there are notable barriers to the widespread adoption of these innovations. Funding limitations pose a significant challenge, as many institutions lack the financial resources to invest in new technologies, expand career services staff, or develop long-term employer partnerships. Institutions like Arizona State University, which have embraced predictive job market analysis to guide students into high-demand careers, require substantial financial investment in data infrastructure and analytics platforms. For smaller or less-resourced universities, securing such funding can be a barrier. Institutional inertia also hinders the adoption of innovative practices. Institutions can be slow to adapt to the rapidly changing needs of the labor market, clinging to traditional models of career services that are no longer sufficient. Without strong leadership and a willingness to innovate, institutions may struggle to implement the necessary changes.

Another key challenge is gaps in employer engagement. While employer collaborations are vital for aligning academic programs with workforce needs, not all institutions have the connections or resources to build and sustain these partnerships. This limits their ability to offer students real-world learning opportunities, such as internships, mentorships, and job shadowing, which are crucial for addressing underemployment. While the availability of potential partnerships has traditional been linked to institutional setting (i.e., urbanicity) virtual platforms and the ubiquity of the hybrid environment present new opportunities for partnerships both in geographic region, but also in diversity of employers.

To reduce underemployment, innovations in career services must ensure that all students—especially those from historically underserved groups like first-generation, low-income, and adult learners—have meaningful access to career preparation. Without intentional support, these students often face greater challenges in securing stable employment after graduation. For example, the University of Nevada, Las Vegas (UNLV) offers micro-internships through Parker Dewey, providing flexible, short-term, paid projects that allow students to gain experience and build networks remotely. At the University of Iowa, the Tippie College of Business integrates experiential learning directly into its curriculum through the Tippie RISE program. This initiative requires students to complete internships, research projects, or international experiences, ensuring they apply their classroom knowledge in real-world settings. While this experience is limited to the Tippie College of Business at the University of Iowa, the framework could be adapted to other colleges or universities. Such intentional designs in career services offer accessible and impactful opportunities that help students develop marketable skills. Large public universities should continue to adopt these strategies to equip every student with the tools needed for career success.

While APLU institutions have made great strides in using innovation to address underemployment, challenges remain. Funding, institutional resistance, and employer engagement all need to be addressed to scale these efforts. Moreover, ensuring that these innovations are accessible to underserved students is crucial to fostering equity in career outcomes. Institutions that prioritize collaboration, innovation, and equity will be best positioned to prepare their students for success in an increasingly competitive job market.

Conclusion

The innovations in career services at APLU member institutions are addressing the issue of underemployment among graduates. From technological integration to employer collaborations, these approaches are helping institutions better prepare students for a rapidly changing labor market. However, challenges such as limited resources, institutional inertia, and gaps in employer engagement persist, preventing these innovations from reaching their full potential.

For university leaders, the path forward is clear. Institutions can restructure career services to center innovations that are scalable and sustainable. Deepening partnerships with employers will also be critical for aligning academic programs with workforce needs. Additionally, universities must adopt data-driven, student-centered approaches that focus on personalized support and targeted interventions for underserved student populations.

Looking ahead, the further integration of AI, employer-driven curricula, and digital credentialing will reshape the landscape of career services. These tools can help institutions provide more tailored and flexible career preparation, keeping students competitive in an evolving job market.

Finally, ongoing collaboration between institutions, employers, and policymakers will be essential to sustaining the momentum of these innovations. By working together, these stakeholders can ensure that higher education continues to serve as a powerful engine for social mobility and economic opportunity.

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